

## AMENDED CLAIMS

[received by the International Bureau on 10 October 2005 (14.11.05);  
original claims 1 - 12, 15 - 42, and 44 - 86 cancelled;  
original claim 13 amended; new claims 87 - 106 added;  
remaining claims unchanged (3 pages)]

What is claimed is:

Claims 1- 12 (canceled)

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13. A method comprising using a layered manufacturing process to produce an article having a plurality of small-width fluid conduction vents, wherein at least one of said small-width fluid conduction vents has a polygonal cross-sectional shape and is produced in said article by said layered manufacturing process, said article is a component of an EPS bead mold, and
- 10 said plurality comprises a sufficiently large number of small-width fluid conduction vents so that the time for processing the electronic files containing representations of the small-width fluid conduction vents is substantially less than it would have been had the cross-sectional shape of the small-width fluid conduction vents been circular.

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14. The method of claim 13, further comprising the steps of:
- a) using said article to make a pattern; and
  - b) using said pattern in a lost-foam molding process.

Claims 15 -42 (canceled)

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43. An article produced by the method described in claim 13.

Claims 44-86 (cancelled)

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87. The method of claim 13, wherein the layered manufactured process is selected from the group consisting of three dimensional printing and selective laser sintering.

88. The method of claim 13, further comprising the step of infiltrating the article after it has been produced by said layered manufacturing process.

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89. The method of claim 13, further comprising the steps of:
- a) creating a first electronic file containing a representation of said article, wherein at least one of said fluid conduction vents is absent from the representation of said article;

- 5      b) creating a second electronic file containing a representation of at least one of said absent small-width fluid conduction vent or vents;
- c) combining said first electronic file with said second electronic file to create a third electronic file containing a representation of said article with at least one of said absent small-width fluid conduction vent or vents positioned within said article; and
- d) using said third file with said layered manufacturing process to produce said article.

10      90. The method of claim 13, further comprising the step of designing at least one of said small-width fluid conduction vents to have a cross-sectional shape that is selected from the group of consisting of square and hexagon.

        91. The method of claim 13, wherein the mold has a direction of opening during use and the method further comprises the step of orienting at least one of said small-width conduction vents to have a centerline oriented parallel to said direction of opening.

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        92. A method comprising the steps of:

- 20      a) modeling an article having a plurality of small-width fluid conduction vents to create an electronic file, wherein each of the small-width fluid conduction vents has a polygonal cross-sectional shape; and
- b) using the electronic file with a layered manufacturing process to produce said article;

25      wherein said plurality comprises a sufficiently large number of small-width fluid conduction vents so that the time for processing the electronic file is substantially less than it would have been had the cross-sectional shape of the small-width fluid conduction vents been circular.

        93. The method of claim 92, further comprising the step of selecting the article to be a fluid regulation component of a shock absorber.

30      94. The method of claim 92, further comprising the step of selecting the article to be a mold.

        95. The method of claim 94, wherein the mold has a direction of opening and the method further comprises the step of orienting at least one of said small-width conduction vents to have a centerline oriented parallel to said direction of opening.

96. The method of claim 94, wherein the article is selected to be an EPS bead mold.
97. The method of claim 96, further comprising the step of using the EPS bead mold to produce a pattern for a lost-foam molding process.
- 5 98. The method of claim 92, further comprising the step of selecting the article to be a heat transfer device.
99. The method of claim 92, wherein the step of modeling includes:
- 10 i) modeling the article to create a first electronic file;
- ii) modeling the plurality of small-width fluid conduction vents to create a second electronic file, wherein at least one of said fluid conduction vents has a polygonal cross-section;
- 15 iii) combining said first and second electronic files to create the electronic file to be used in step b).
100. The method of claim 92, further comprising the step of selecting the polygonal cross-sectional shape from the group consisting of a square and a hexagon.
- 20 101. The method of claim 92, further comprising the step of selecting the layered manufacturing process from the group consisting of three dimensional printing and selective laser sintering.
102. The method of claim 92, further comprising the step of infiltrating the article after it has been produced by said layered manufacturing process.
- 25 103. The method of claim 92, further comprising the step of designing at least one of the small-width fluid conduction vents to have a cross-section that varies in width along its centerline.
- 30 104. The method of claim 92, further comprising the step of designing at least one of the small-width fluid conduction vents to vary in cross-sectional shape along its length.

105. The method of claim 92, further comprising the step of infiltrating the article after it has been produced by said layered manufacturing process.

106. An article produced by the method of claim 92.

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